

Topics in Immunology for students of the second year of medicine ED, academic year 2024/2025

Lectures : 20h

Topic	Lecturer	Time in hours
1. Introduction to immunology.	Dr hab. n. med. Joanna Harażna, prof.UWM, PhD	2h
2. Innate and adaptive responses. Identification and presentation of the antigen.	Dr hab. n. med. Joanna Harażna, prof.UWM, PhD	2h
3. Humoral and cellular response.	Dr hab. n. med. Joanna Harażna, prof.UWM, PhD	2h
4. Immune tolerance and autoimmune reactions.	Dr hab. n. med. Joanna Harażna, prof.UWM, PhD	2h
5. Transplant immunology	Dr n. med. Norbert Kwella, MD, PhD, Internist, Nephrologist, Transplantologist	2h
6. Immunologia nowotworów.	Dr hab. n. med. Joanna Harażna, prof.UWM	2h
7. Immunologia rozrodczości.	Dr n. med. Wojciech Zdanowski, MD, PhD, Obstetrician and Gynecologist	2h
8. Nadwrażliwość.	Dr n. med. Natalia Zdanowska, MD, PhD, Dermatologist and Venereologist	2h
9. Immunologia infekcji. Wrodzone i nabyte niedobory immunologiczne.	Dr hab. n. med. Joanna Harażna, prof.UWM, PhD	2h
10. Ożywianie a odporność. Immunologia zaburzeń metabolicznych.	Dr n. med. Natalia Zdanowska, MD, PhD, Dermatologist and Venereologist	2h

**Seminars: 10h**

<b>Topic</b>	<b>Lecturer</b>	<b>Time in hours</b>
1. Serological diagnosis of infection, basic methods, sensitivity and specificity	Dr n. biol. Joanna Czerwińska, PhD	2h
2. Basic diagnostic methods: complement fixation test, hemagglutination test, ELISA, Western blot, IIF, PCR	Dr n. biol. Joanna Czerwińska, PhD	2h
3. Post-transfusion reactions, hematological disorders	Dr n. biol. Joanna Czerwińska, PhD	2h
4. Diagnostics of autoimmune diseases	Dr n. biol. Joanna Czerwińska, PhD	2h
5. Modern methods of allergy diagnostics	Dr n. med. Natalia Zdanowska, MD, PhD,	2h

**Classes: 30h**

Topic	Lecturer	Time in hours
1. Diagnosis of <i>Borrelia burgdorferi</i> infection by Elisa and Western blot methods	Dr n. biol. Joanna Czerwińska, PhD	4h
2. Allergology diagnosis: prick tests and patch tests	Dr n. med. Natalia Zdanowska, MD, PhD	4h
3. Non-specific (innate) immunity, immune barriers and complement system: cassette chromatographic tests for <i>Helicobacter pylori</i> , SARS CoV2, analysis of results and their clinical significance, cases	Dr hab. n. med. Joanna Haraźna, prof.UWM, PhD	4h
4. Specific (adaptive) immunity: Antigen-antibody reaction. CGRP immunohistochemical staining using antigen/antibody reaction, analysis of results of tests of different antibodies levels and their clinical significance, cases	Mgr Urszula Mazur, MSc	4h
5. Acute and chronic inflammation. CRP latex test, analysis of causes and effects of inflammation on the example of acute pancreatitis. Chronic inflammation on the example of hyperuricemia and gout Analysis of differences in the course of viral and bacterial pneumonia, blood morphology and cytometry, cases	Dr hab. n. med. Joanna Haraźna, prof.UWM, PhD	4h
6. Hypersensitivity, autoimmunity and deficiency in the defense system. Analysis and recognition of different types of hypersensitivity. Comparison of IgE and prick test results and environmental influences in allergy. Analysis of the influence of the complement system and vaccinations and tuberculin test in hypersensitivity reactions, analysis of the causes of delayed hypersensitivity, analysis of the effects of autoantibody reactions to hormonal receptors. Cross-reaction: ASO testing with a latex test. Analysis of the effects of nutritional deficiencies, virus activity and genetic mutations in the defense system. Chromatographic testing of anti-HBV antibodies in the cassette test. Analysis of hypergamma-globulinemia in alcoholism. Cases	Dr hab. n. med. Joanna Haraźna, prof.UWM, PhD	4h
7. Immune compatibility of tissue and blood, diseases in the hematopoietic system Immune tolerance, autoimmunity and diseases in the hematopoietic system. Studies and analyses of anti-blood cell antibody results using gel cards: ABO, RhD group antibodies, Coombs test (e.g. Kell, P, Lewis, MNS) Analysis of ABORh blood groups in relation to donor/recipient. Analysis of	Dr hab. n. med. Joanna Haraźna, prof.UWM, PhD	4h

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the effects of post-transfusion reaction. Analysis of microcytotoxic test results between donor and transplant recipient. Selection of donor HLA based on recipient HLA in kidney transplant, bone marrow transplant, second transplant, analysis of types of autoantibodies in autoimmunity. Cases		
Test 1 (Colloquium 1)	Mgr. Urszula Mazur, MSc	1h
Test 2 (Colloquium 2)	Dr hab. n. med. Joanna Harażna, prof.UWM, PhD	1h

The following applies to pretest during the classes:

References for the pretest: - Abbas, Andrew Lichtman, Shiv Pillai. Basic Immunology

The detailed scope will be provided no later than one week before the classes